

# PATENT ABSTRACTS OF JAPAN

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(30)Priority

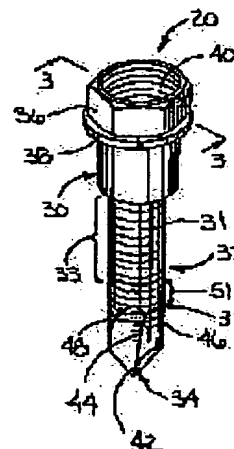
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## (54) SELF-DRILLING/SELF-TAPPING FASTENER

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a self-drilling/self-tapping faster capable of sufficiently enduring against vibration inducing fatigue.

**SOLUTION:** A self-drilling/self-tapping fastener 20, suited for mounting a sprinkler system in a metal support structure, has a driving head part and an integral shaft part having a screw part. In process hardening and tapping of the shaft part 32, the shaft part 32 is hardened in the hardness capable of holding sufficient ductility enduring against a vibratory load. A drill tip 34 provided in an end part of the shaft part 32 and a lead thread 37 approximate to the drill tip 34, in order to drill and tap a metal support member, is locally hardened in relatively high hardness. In a gradual transition part, a high hardness part is separated from a low hardness part, by a single fastener, two clearly different material characteristics can be displayed in the one fastener. The fastener via this double process is to display two separate load-carrying capacities.



## LEGAL STATUS

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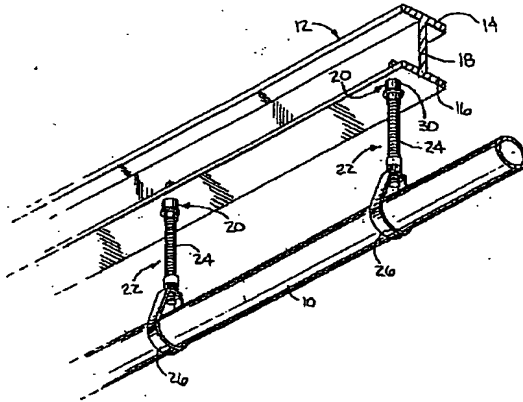
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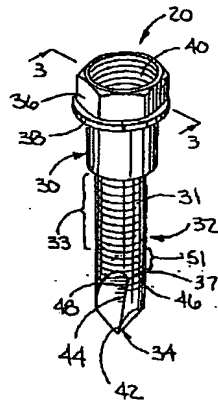
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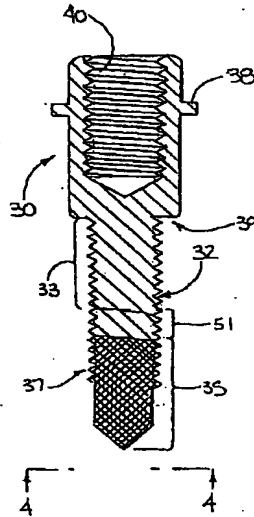
【図1】



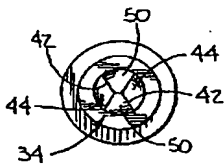
【図2】



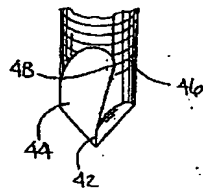
【図3】



【図4】



【図5】



【図6】

